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CONTENTS, FOREWORD, AND BIBLIOGRAPHY OF THE BOOK
'SONIC FOCUSsing SYSTEMS'

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Academy of Sciences USSR).

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L. D. Rozenberg

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The effects of focussing sounds have long been familiar; until recently, however, their application has rarely gone beyond school experiments.

The development of acoustics and acoustical^S techniques, especially the works of recent years in the field of ultrasonics, has needed the extensive application of focussing systems for the solution of many practical problems.

The existing literature on these problems (except parabolic mirrors) is more than meagre. Excluding certain publications of the author and of persons working with him, the literature is limited to less than ten works of great age, describing certain qualitative experiments. The theory, and still less the problems of calculating sonic focussing systems, is not touched on at all.

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Therefore, it is not useless to publish this work, which is a summary of certain materials obtained as a result of labors performed under the direction of the author at the Physical Institute imeni P. N. Lebedev, Academy of Sciences USSR.

Obviously the present work, being the first in this interesting field, cannot pretend in any way to completeness and to an exhaustive solution of the problems touched upon.

The author hopes that he has clarified general positions, noted the scope of the problems relating to the theme, and given solutions of certain of them.

The book is intended, in the main, for the engineer-investigator and project planner (designer); if, however, the book interests a wider circle of physicists and also is a stimulus to further development of this new field of acoustics, which in analogy with electron-optics could be called "sonic optics", the author will consider his work fulfilled.

The experiments described in this book were carried out in cooperation with B. D. Tartakovskiy, A. A. Karpacheva, V. Ya. Eykhengol'ts, Yu. N. Sil'vestrov, and M. G. Sirotyuk.

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Moscow, 10 September 1949.

Physical Institute imeni P. N. Lebedev,
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